
INSPECTION AND ACCEPTANCE OF RAPID-SETTING CONCRETE PATCHING MATERIALS

GENERAL

Acceptance of rapid-setting concrete patching materials will be on the basis of approved brands and satisfactory test results. These materials are approved for use when the plans and/or specifications permit their use for surface patching purposes.

Brand names must be identifiable on the packages. Material shall be packaged in a multi-wall moisture resistance paper bag. Shelf life shall be indicated on each packaged bag (by expiration date). Mixing sequence and addition of mixing water for each material shall be as directed and recommended by each manufacturer. When coarse aggregate is used, its type and quantity shall follow manufacturer recommendations. The coarse aggregate shall meet requirements of Standard Specification 4115.06 (Coarse Aggregate for Surfacing and Repair and Overlay). Approved brands are listed in Appendix A.

ACCEPTANCE

Prior to being placed on the list of approved brands, one or more product per manufacturer will be evaluated by the Central Laboratory. The evaluation will consist of testing the material for strength, bonding, durability, time of set and shrinkage. Addition of chemical admixture to achieve the time of set shall not be allowed in the laboratory evaluation. Approximately 45 kg (100 lbs.) of material is required to perform testing.

A. Compressive Strength (ASTM C-39)

<u>Cure time (lab air)</u>	<u>Strength Mpa (psi)</u>
1.0 hour	10.3 (1500) minimum
3.0 hours	17.2 (2500) minimum
1 day	20.7 (3000) minimum

B. Set Times (ASTM C-266)

Initial	10 minutes (minimum)
Final	45 minutes (maximum)

C. Bonding (Iowa Test No. 406-B)

<u>Cure time (Lab air)</u>	<u>Shear strength Mpa (psi)</u>
24 hours	2.4(350) minimum

D. Durability (ASTM C-666 Procedure B, modified)

<u>Cure time</u>	<u>% of Orig. Modulus 100 cycles</u>
1 day air + 6-day soak in water (or as recommended by the manufacturer)	70% (minimum)

E. Shrinkage (ASTM C-157)

<u>Cure time</u>	<u>Limit, based on length at 3 hours</u>
28 days in water	+0.15%
28 days in air	-0.15%

CERTIFICATION

The manufacturer shall file a certification at the beginning of each calendar year stating that the material supplied during that year is identical with the formulation previously tested and approved by the Office of Materials.

MONITOR SAMPLING AND TESTING

The Office of Materials may sample and test rapid-setting concrete patching materials to verify their capabilities of meeting the approval requirements.